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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,136	02/26/2002	Jacob Cherian	016295.0692	3364

7590 06/06/2007
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EXAMINER

QURESHI, AFSAR M

ART UNIT	PAPER NUMBER
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2616

MAIL DATE	DELIVERY MODE
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06/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/083,136	Applicant(s) CHERIAN ET AL.	
	Examiner Afsar M. Qureshi	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-10,12-14,16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-10,12-14,16,18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. This action is responsive to amendment received on 5/4/2007.

Response to Arguments

2. Applicant's arguments filed 5/4/2007 have been fully considered but they are not persuasive.

Applicant amended claims 1, 6, 13 and 19. Claims 7, 11, 15, 17 are cancelled.

Applicant added limitation "*building a table of available storage paths between the server and the storage unit*" and argued that Tawil does not anticipate this limitation and cited MPEP § 2131. However, during examination "the pending claims must be given their broadest reasonable interpretation consistent with the specification. The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach ... (MPEP § 211.01). Examiner contends that given the broadest interpretation, the data in the memory cache indicating available storage paths, associated with controllers 24 and 30 and immediately transferable to storage system 22, reads on the added limitation (col. 6, lines 17-26).

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-6, 8-10, 12-14, 16 and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Tawil et al. ('Tawil'), US 6,625,747).

Claims 1, 13 and 19. Tawil discloses a method for selecting an alternate storage path between a server 12 and a storage system 22 (figure 1) with plurality of storage device (32, 34, 36, 38, 40, 42). Tawil further discloses that upon failure of an existing storage path (e.g., First switch 18, first controller 24, storage device 32, fig. 1) it identifies the failed storage controller (First controller 24) and selects an alternate storage path with different storage controller (Second controller 20) and one or more storage units (see col. 4, lines 22-41, also, col. 6, lines 63 through co. 7, lines 1-20). Tawil also discloses a memory cache associated with first controller 24 t second controller 30 that store or cache data prior to transferring it to a storage system 22. The temporarily stored data in the controller cache memory is functionally the same as building a table of available storage paths that can be expediently transferred to a storage device.

Claim 2. Tawil discloses a method of identifying (monitoring by Multipathing driver 13, fig. 1) the storage controller of the existing path comprising the step of identifying the available storage paths between the server and the storage unit (col. 4, lines 20-25).

Claims 3 - 5. Tawil discloses method steps for identifying the storage controller of the existing storage path by identifying the logical association between ports and storage controller of the storage system (see col. 6, lines 3-16). Tawil further discloses identifying the available storage paths (see col. 4, lines 22-29) and the logical association between ports and storage controllers utilizing logical unit (LUN) in an identifier of the storage device (see col. 6, lines 3-16). As to claim 5, Tawil discloses the existing storage path (e.g., First HBA 14, First Switch 18, First Controller 24, storage devices 32, ...) being the default storage path (see figure 1, col. 4, lines 15-21).

Claim 6. As discussed in the rejection of claim 1 above, Tawil discloses, in figure 1, Server 12 having a multipath driver 13, storage system 22 comprising multiple ports 32, 34, 36,..., associated to Storage Controllers 24, 26, Storage Units 33, 39. As discussed above, in the rejection of claims 1-5, Multipath driver 13 monitors and selects storage path, and in case of failure, selects an alternate storage path using storage controller different from the storage controller used in the default path (Second HBA 16, Second Switch 20, *Second Controller 26*, etc.).

Tawil also discloses a memory cache associated with first controller 24 t second controller 30 that store or cache data prior to transferring it to a storage system 22. The temporarily stored data in the controller cache memory is functionally the same as building a table of available storage paths that can be expediently transferred to a storage device.

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Claims 8-10 and 12. Tawil discloses multiple storage units accessible by multiple storage controllers 24, 26 (claim 8, see figures 1 and/or 2). As to claims 7,9 –10, Tawil discloses a common storage (table) for use in storing and retrieving information by the Multipathing driver in order to identify a storage path. Tawil uses the technique of assigning common world wide name to controller to allow the host to reroute a data request (see col. 2, lines 60 through col. 3, lines 1-15 and col. 6, lines 17-26). As to claim 12, Tawil discloses a data source accessible by the driver that includes an identification of ports through which each storage unit of the storage system is accessible (col. 6, lines 44-62).

Claim 14, 16. As to claims 14 and 16, Tawil discloses method steps of identifying the available storage paths by monitoring (see col. 4, lines 22-25) the relationship between the storage controllers and the ports 32, 34, 36, 38, 40 and 42 of the storage system (figure 1) and selecting the default storage path (as discussed above) accordingly.

Claims 18 and 20. Method steps of identifying the available storage paths between server and the storage units by building a table of the available storage paths and identifying the ports for storage controllers, as claimed herein, are already discussed in the rejection of claims 8-10 and 12 above (see col. 2, lines 49-53, col. 6, lines 17-25 and col. 7, lines 22-34).

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afsar M. Qureshi whose telephone number is (571) 272 3178.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Field Lynn can be reached on (571) 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

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information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



AFSAR QURESHI
PRIMARY EXAMINER

6/4/2007